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Original Article

Predictability of Norismedical Zygomatic Dental Implants following Extramaxillary Approach: A Clinical Study

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ABSTRACT:

Background: The rehabilitation of an atrophic maxilla is a challenge for oral and maxillofacial surgeon. Hence; we planned the present study to assess the predictability of norismedical zygomatic dental implants following extramaxillary approach. **Materials & methods:** The present study was conducted for assessing the predictability of norismedical zygomatic dental implants following extramaxillary approach. A total of 20 patients were included in the present study that was scheduled to undergo zygomatic dental implants. Pre-operative hematological assessment of all the patients was carried out one day before the placement of dental implants. norismedical zygomatic dental implants following extramaxillary approach. Follow-up records of all the patients were maintained for assessing the prognosis of dental implants. **Results:** Failure of dental implant was present only in a single male patient, which manifested in the form of superficial wound infection. Rest all the 19 cases had excellent prognosis. So the success rate of dental implants in our study was 95 percent. **Conclusion:** Implants placed with extramaxillary approach bearing smooth surface in contact with maxillary wall e.g. norismedical zygomatic implants have excellent prognosis.

Key words: Extramaxillary, Implant, Zygomatic.

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INTRODUCTION

The rehabilitation of an atrophic maxilla is a challenge for oral and maxillofacial surgeon. In many patients, treatment with conventional implants cannot be performed because the lack of alveolar bone caused by the pneumatization of the maxillary sinus.^{1, 2} Excessive bone resorption combined with poor bone quality and increased maxillary sinus pneumatization often making it impossible to place conventional dental implants in the posterior maxilla. Various bone augmentation techniques, such as sinus floor elevation and onlay bone grafting, have been described in order to increase the volume of load-bearing bone.⁴⁻⁶ Nevertheless, efforts have been made to pursue alternatives to grafting procedures and one of these, especially in the atrophic maxilla, is the use of zygomatic implants. This

implant which was initially introduced for the prosthetic rehabilitation of patients with extensive defects of the maxilla caused by tumor resections, trauma or congenital defects was also used in patients with edentulous atrophic maxilla, enabling rehabilitation with sufficient function and improved esthetics.⁶⁻⁹ Hence; we planned the present study to assess the predictability of norismedical zygomatic dental implants following extramaxillary approach.

MATERIALS & METHODS

The present study was conducted for assessing the predictability of norismedical zygomatic dental implants following extramaxillary approach. A total of 20 patients were included in the present study that was scheduled to

undergo zygomatic dental implants. Exclusion criteria for the present study included:

- Diabetic patients,
- Hypertensive patients,
- Patients with positive history of any systemic illness,
- Patients with any known drug allergy

All the patients were selected after meeting the exclusion criteria. Pre-operative hematological assessment of all the patients was carried out one day before the placement of dental implants. norismedical zygomatic dental implants following extramaxillary approach. Follow-up records of all the patients were maintained for assessing the prognosis of dental implants. All the results were recorded in Microsoft excel sheet and was assessed by SPSS software.

RESULTS

A total of 20 patients were enrolled in the present study, among which, 14 were males while the remaining 6 were females. Mean age of the male patients was 54.6 years while mean age of the female patients was 52.8 years. Most of the patients were between 30 to 50 years of age. Failure of dental implant was present only in a single male patient, which manifested in the form of superficial wound infection. Rest all the 19 cases had excellent prognosis. So the success rate of dental implants in our study was 95 percent.

Table 1: Demographic data

Parameter	Gender	
	Males	Females
Number of subjects	14	6
Mean age (years)	54.6	52.8
Mean weight (Kg)	68.7	58.1

Table 2: Prognosis of dental implants

Prognosis	Subjects (number)	Subjects (%)
Success	19	95
Failure	1	5

DISCUSSION

The zygomatic implant was originally developed by Bränemark in 1989, for the rehabilitation of atrophied maxillae in cancer patients that had undergone partial or total maxillectomy. Currently, zygomatic implants are mainly indicated for dental rehabilitation in atrophic maxillae. An implant with the following characteristics was designed: internal hex and varied multi-unit abutments to adjust for angulation and of the length from 30 to 60 mm, moderately smooth surface at its body, a diameter of 4.2 mm at its widest part.⁷⁻¹⁰ In the present study, 20 patients were enrolled in the present study, among which, 14 were males while the remaining 6 were females. Mean age of the male patients was 54.6 years while mean age of the female

patients was 52.8 years. Molinero-Mourelle P et al analyzed and described the most frequent surgical complications associated with the use of zygomatic implants. An electronic database search on PubMed, along with a manual search, without taking into account date nor language, was undertaken by two observers, selecting studies that comprised a study period from 6 to 12 months, any type of clinical trial, and series that included a follow-up and/or review period during the aforementioned margin, that mentioned at least two types of complications. Out of the initial search that yielded 455 studies, 67 were considered potentially relevant for the present study, out of which 14 were finally selected. Out of the most frequent surgical complications, sinusitis (3.9%) and failure in osseointegration (2.44%) are highlighted. The analysis of the results shows that the most frequent complications are sinusitis and failure in osseointegration of the zygomatic implant.¹¹

In the present study, most of the patients were between 30 to 50 years of age. Failure of dental implant was present only in a single male patient, which manifested in the form of superficial wound infection. Rest all the 19 cases had excellent prognosis. So the success rate of dental implants in our study was 95 percent. Fernández H et al described the surgical techniques, success rate, prosthetic rehabilitation, complications, and demographics of patients undergoing zygomatic implant surgery. A retrospective case series study design was implemented that included patients who received zygomatic implants identified in the database of the Department of Oral and Maxillofacial Surgery, Universidad El Bosque from 2009 to 2013. Contact information was retrieved from the charts and patients were asked to attend the department for a follow-up appointment. The population consisted of all patients found in the database and the sample included otherwise healthy patients living in Bogota, Colombia. Predictor variables were categorized into patient's medical history, demographics, surgical technique, and prosthetic rehabilitation. The outcome variable was the presence or absence of postoperative complications. Smokers, diabetics, and patients living outside Bogota were excluded. Patients also were excluded if their medical status had changed since zygomatic implant surgery. Descriptive statistics were computed for each study variable. Data of 95 patients were retrieved. The sample consisted of 80 patients in whom 244 implants were inserted. The sample's mean age was 55.5 years. One hundred eleven zygomatic implants were placed in women and 133 were placed in men, with an overall complication rate of 9.9%, with sinusitis the most frequent complication (7.5%). Other complications included paresthesia (0.4%) and oroantral fistula (0.4%). The follow-up period was 6 to 48 months. This investigation reviewed the authors' 4-year experience placing zygomatic implants and proved a reliable method for the treatment of the resorbed maxilla.¹²

CONCLUSION

Under the light of above mentioned data, the authors conclude that the implants placed with extramaxillary approach bearing smooth surface in contact with maxillary wall e.g. norismedical zygomatic implants have excellent prognosis. However; further studies are recommended.

REFERENCES

1. Bedrossian E. Rehabilitation of the edentulous maxilla with the zygoma concept: A 7-year prospective study. *Int J of Oral Maxillofac Implants*. 2010;25:1213–21.
2. Aparicio C, Ouazzani W, Aparicio A, Fortes V, Muela R, Pascual A. Immediate/Early loading of zygomatic implants: clinical experiences after 2 to 5 years of follow-up. *Clin Implant Dent Relat Res*. 2010;12Suppl 1:e77–82.
3. Aparicio C, Ouazzani O, Hatano N. The use of zygomatic implants for prosthetic rehabilitation of the severely resorbed maxilla. *Periodontol 2000*. 2008;47:162–71.
4. Chrcanovic BR, Abreu MH. Survival and complications of zygomatic implants: a systematic review. *Oral Maxillofac Surg*. 2013;17:81–93.
5. Al-Thobity AM, Wolfinger GJ, Balshi SF, Flinton RJ, Balshi TJ. Zygomatic implants as a rehabilitation approach for a severely deficient maxilla. *Int J Oral Maxillofac Implants*. 2014;29:e283–9.
6. Petruson B. Sinuscopy in patients with titanium implants in the nose and sinuses. *Scand J Plast Reconstr Surg Hand Surg*. 2004;38:86–93.
7. Becktor JP, Isaksson S, Abrahamsson P, Sennerby L. Evaluation of 31 zygomatic implants and 74 regular dental implants used in 16 patients for prosthetic reconstruction of the atrophic maxilla with cross-arch fixed bridges. *Clin Implant Dent Relat Res*. 2005;7:159–65.
8. Miglioranza RM, Sotto-Maior BS, Senna PM, Francischone CE, Del BelCury AA. Immediate occlusal loading of extrasinuszygomatic implants: a prospective cohort study with a follow-up period of 8 years. *Int J Oral Maxillofac Surg*. 2012;41:1072–6.
9. Duarte LR, Filho HN, Francischone CE, Peredo LG, Bränemark P. The establishment of a protocol for the total rehabilitation of atrophic maxillae employing four zygomatic fixtures in an immediate loading system: A 30-month clinical and radiographic follow-up. *Clin Implant Dent Relat Res*. 2007;9:186–96.
10. Sartori EM, Padovan LE, de MattiasSartori IA, Ribeiro PD Jr, Gomes de Souza Carvalho AC, Goiato MC. Evaluation of satisfaction of patients rehabilitated with zygomatic fixtures. *J Oral Maxillofac Surg*. 2012;70:314–9.
11. Molinero-Mourelle P, Baca-Gonzalez L, Gao B, Saez-Alcaide L-M, Helm A, Lopez-Quiles J. Surgical complications in zygomatic implants: A systematic review. *Medicina Oral, Patología Oral y CirugíaBucal*. 2016;21(6):e751–e757.
12. Fernández H1, Gómez-Delgado A2, Trujillo-Saldarriaga S2, Varón-Cardona D2, Castro-Núñez J3. Zygomatic implants for the management of the severely atrophied maxilla: a retrospective analysis of 244 implants. *J Oral Maxillofac Surg*. 2014 May;72(5):887–91.